

# 6HJ8

## Diode—Sharp-Cutoff Pentode

With Heater Having Controlled Warm-Up Time

### GENERAL DATA

#### Electrical:

Heater Characteristics and Ratings (*Design-Maximum Values*):

Voltage (AC or DC). . . . . 6.3<sup>a</sup> 6.3 ± 0.6 volts

Current . . . . . 0.450 ± 0.030 0.450<sup>b</sup> amp

Warm-up time (Average). . . . . 11 — sec

Peak heater-cathode

voltage (Each unit):

Heater negative with  
respect to cathode. . . . . 200<sup>c</sup> max. volts

Heater positive with  
respect to cathode. . . . . 200<sup>c</sup> max. volts

Direct Interelectrode Capacitances:<sup>d</sup>

#### Diode Unit:

Plate to cathode and heater. . . . . 2.4  $\mu$ f

Cathode to plate and heater. . . . . 3.0  $\mu$ f

#### Pentode Unit:

Grid No.1 to plate . . . . . 0.015 max.  $\mu$ f

Grid No.1 to cathode, grid No.3 &  
internal shield, grid No.2,  
and heater . . . . . 7.0  $\mu$ f

Plate to cathode, grid No.3 &  
internal shield, grid No.2,  
and heater . . . . . 3.2  $\mu$ f

Diode plate to pentode grid No.1 . . . . . 0.005 max.  $\mu$ f

Diode cathode to pentode plate . . . . . 0.15 max.  $\mu$ f

Diode plate to pentode plate . . . . . 0.035 max.  $\mu$ f

#### Characteristics, Class A<sub>1</sub> Amplifier:

Plate Supply Voltage . . . . . 125 volts

Grid No.3. . . . . *Connected to cathode at socket*

Grid-No.2 Supply Voltage . . . . . 125 volts

Cathode Resistor . . . . . 56 ohms

Plate Resistance (Approx.) . . . . . 0.2 megohm

Transconductance . . . . . 9300  $\mu$ mhos

Plate Current. . . . . 11.5 ma

Grid-No.2 Current. . . . . 3.6 ma

Grid-No.1 Voltage (Approx.) for  
plate  $\mu$ a = 20. . . . . -6 volts

Grid-No.1 Voltage (Approx.) for  
plate ma. = 2, and cathode  
resistor (ohms) = 0. . . . . -3 volts

#### Mechanical:

Operating Position . . . . . Any

Type of Cathodes . . . . . Coated Unipotential

Maximum Overall Length . . . . . 2-3/16"

Maximum Seated Length. . . . . 1-15/16"

Length, Base Seat to Bulb Top (Excluding tip). . . . . 1-9/16" ± 3/32"



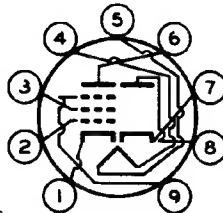
RADIO CORPORATION OF AMERICA  
Electron Tube Division  
Harrison, N. J.

DATA  
3-62

# 6HJ8

Diameter. . . . . 0.750" to 0.875"  
 Dimensional Outline . . . . . See *General Section*  
 Bulb. . . . . T6-1/2  
 Base. . . . . Small-Button Noval 9-Pin (JEDEC No.E9-1)  
 Basing Designation for BOTTOM VIEW. . . . . 9CY

Pin 1 - Pentode  
           Cathode  
 Pin 2 - Pentode  
           Grid No.1  
 Pin 3 - Pentode  
           Grid No.2  
 Pin 4 - Heater  
 Pin 5 - Heater  
 Pin 6 - Pentode Plate



Pin 7 - Diode  
           Cathode  
 Pin 8 - Diode  
           Plate  
 Pin 9 - Pentode  
           Grid No.3,  
           Internal  
           Shield

## PENTODE UNIT — Class A<sub>1</sub> Amplifier

### Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE . . . . . 330 max. volts  
 GRID No.3 (SUPPRESSOR  
   GRID) . . . . . *Connect to cathode at socket*  
 GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE. . . 330 max. volts  
 GRID-No.2 VOLTAGE . . . . . See *Grid-No.2 Input Rating Chart*  
                                   at front of Receiving Tube Section  
 GRID-No.1 (CONTROL-GRID) VOLTAGE:  
   Positive-bias value . . . . . 0 max. volts  
 GRID-No.2 INPUT:  
   For grid-No.2 voltages up to 165 volts. . 0.55 max. watt  
   For grid-No.2 voltages between 165  
     and 330 volts . . . . . See *Grid-No.2 Input Rating Chart*  
                                   at front of Receiving Tube Section  
 PLATE DISSIPATION . . . . . 3.2 max. watts

### Maximum Circuit Values:

Grid-No.1-Circuit Resistance:  
   For fixed-bias operation. . . . . 0.25 max. megohm  
   For cathode-bias operation. . . . . 1 max. megohm

## DIODE UNIT

### Maximum Ratings, Design-Maximum Values:

DC PLATE CURRENT. . . . . 5 max. ma

### Characteristics, Instantaneous Value:

Plate Current for plate volts = 10. . . . . 50 ma

- a At heater amperes = 0.450.
- b At heater volts = 6.3.
- c The dc component must not exceed 100 volts.
- d Without external shield.

